



CDF Operations Summary

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OSU/CDF

Sept 23, 2002

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- New Records:

- Ave. Init. Lum. Record: 28.51 e30, Pbar Stacking Record: 12.43 mA/hr
- New Run II Weekly Int. Lum. Record: 4.79 pb⁻¹

- CDF wrote 3.8 pb⁻¹ to tape.

Store	Start	Duration (hr)	Init. Lum (e30)	B0TLUM (nb ⁻¹)	B0TLIV (nb ⁻¹)	Efficiency (%)
1756	Sun 09/15	16.8	19.1	660.4	569.8	86.3
1758	Mon 09/16	19.1	19.5	740.0	588.8	79.6
1764	Tue 09/17	19.9	19.8	681.0	566.4	79.6
1769	Thu 09/19	11.7	15.0	339.0	250.0	73.7
1770	Thu 09/19	24.3	25.2	1098.3	924.4	84.2
1775	Sat 09/21	9.8	29.8	715.8	550.4	76.9
1779	Sun 09/22	15.9	29.4	976.3	720.0	73.7
1781	Mon 09/23	>8	29.3	~650	~500	~77



Sunday 9/15 - Store 1756

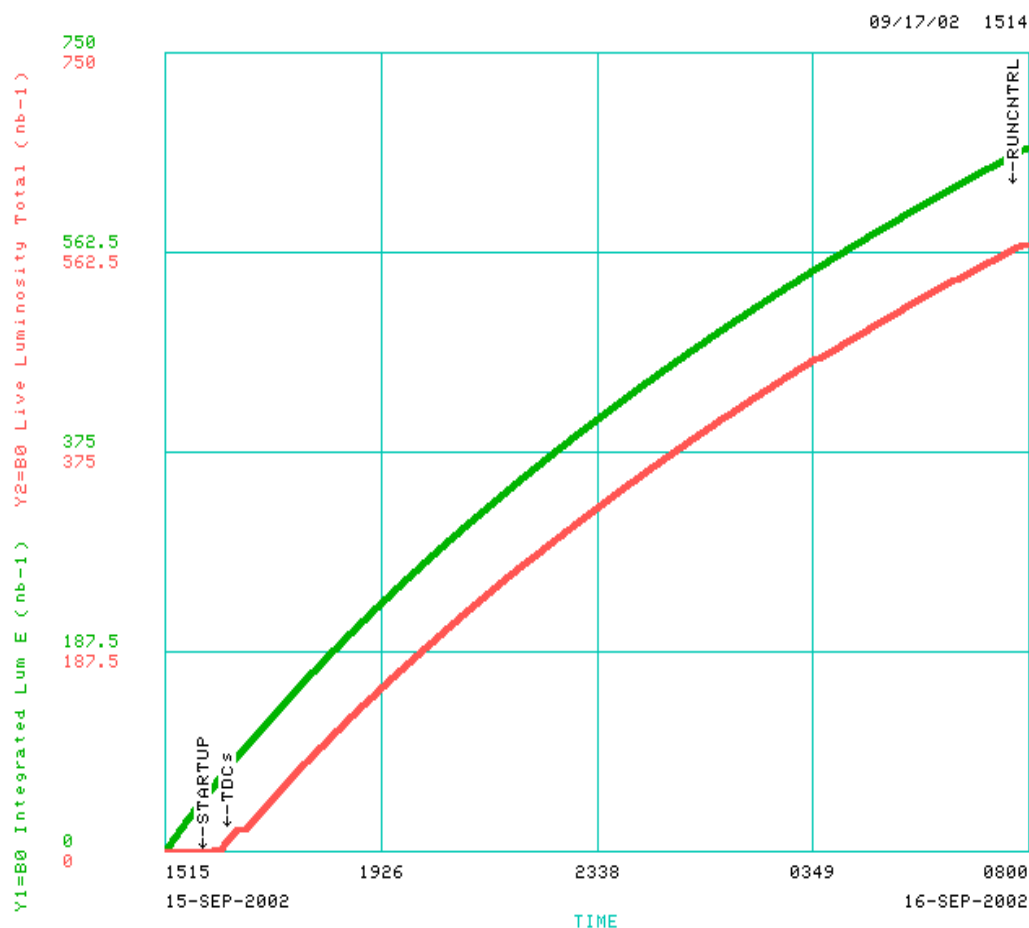
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- **Downtime at the start**
 - TDC in b0cot04 slot 8 failed and was removed from readout.
 - L3/EVB problems also contributed.
- **Data taking very smooth the rest of the time.**
- **Following the end of the store, the problematic TDC was replaced during a short access.**





Monday 9/16 - Store 1758

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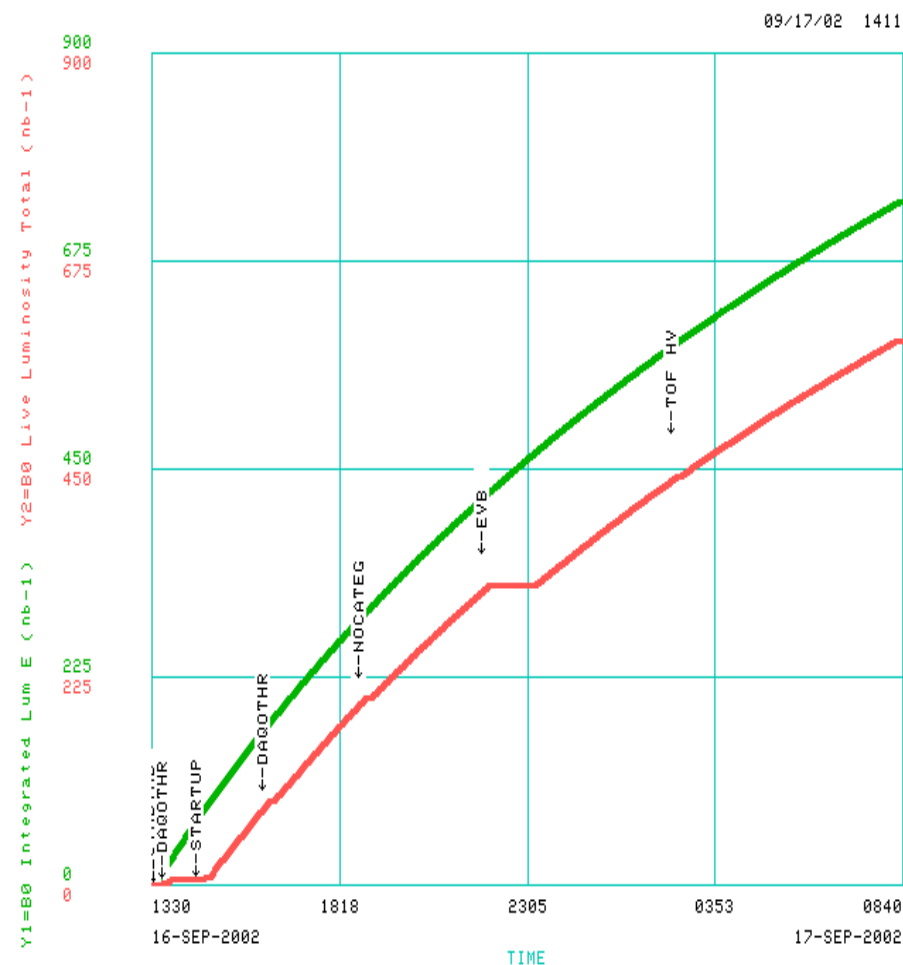
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- **A couple of DAQ problems**

- Effort to recover from an initial VRB problem delays Silicon integration.
- Event Builder gateway machine hangs.
 - Downtime while waiting for machine to reboot.
 - Combines all event fragments from FE into one event for further processing by Level3 filter.

- **Ran smooth otherwise.**





Tuesday 9/17 - Store 1764

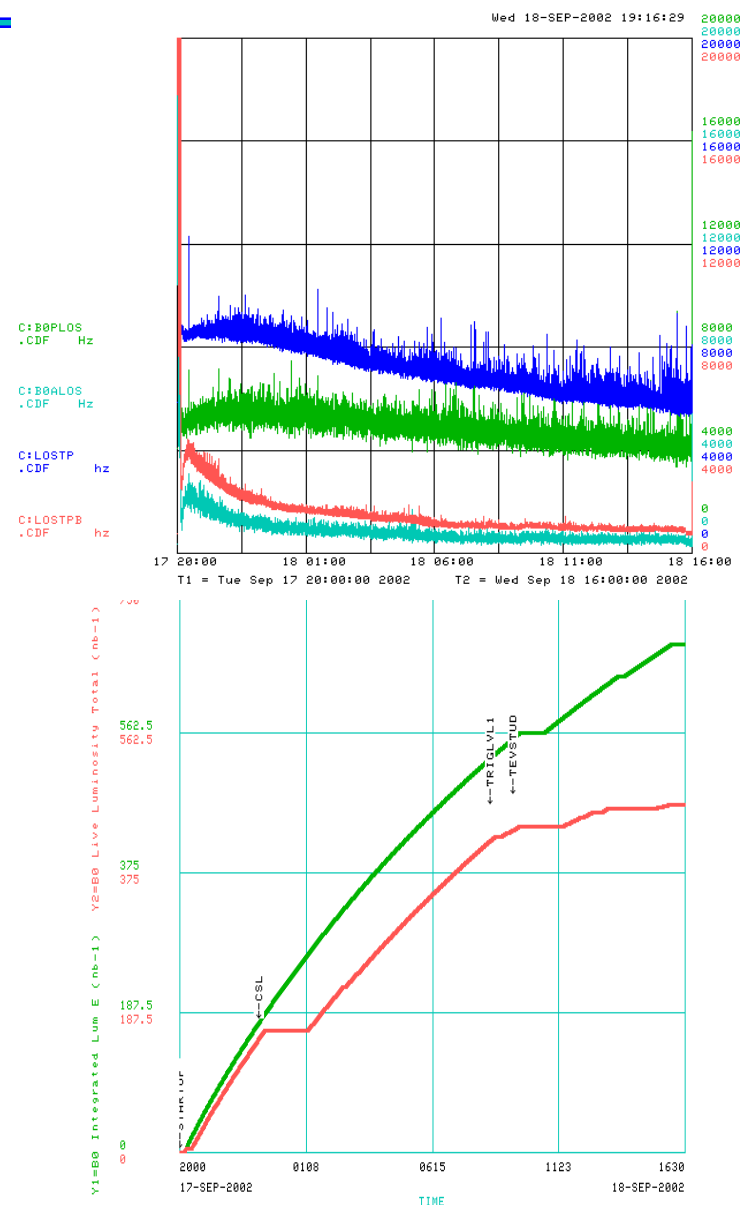
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- Losses low, Silicon integrated quickly.
- Fluke Consumer Server problem
 - Implemented error monitoring to catch and recover from problem much faster.
- Forward muon trigger studies.
- End of store Tev horizontal separator studies
 - Silicon out.
 - CDF performed very useful DAQ and trigger tests during this time.





Thursday 9/19

Stores 1769 & 1770

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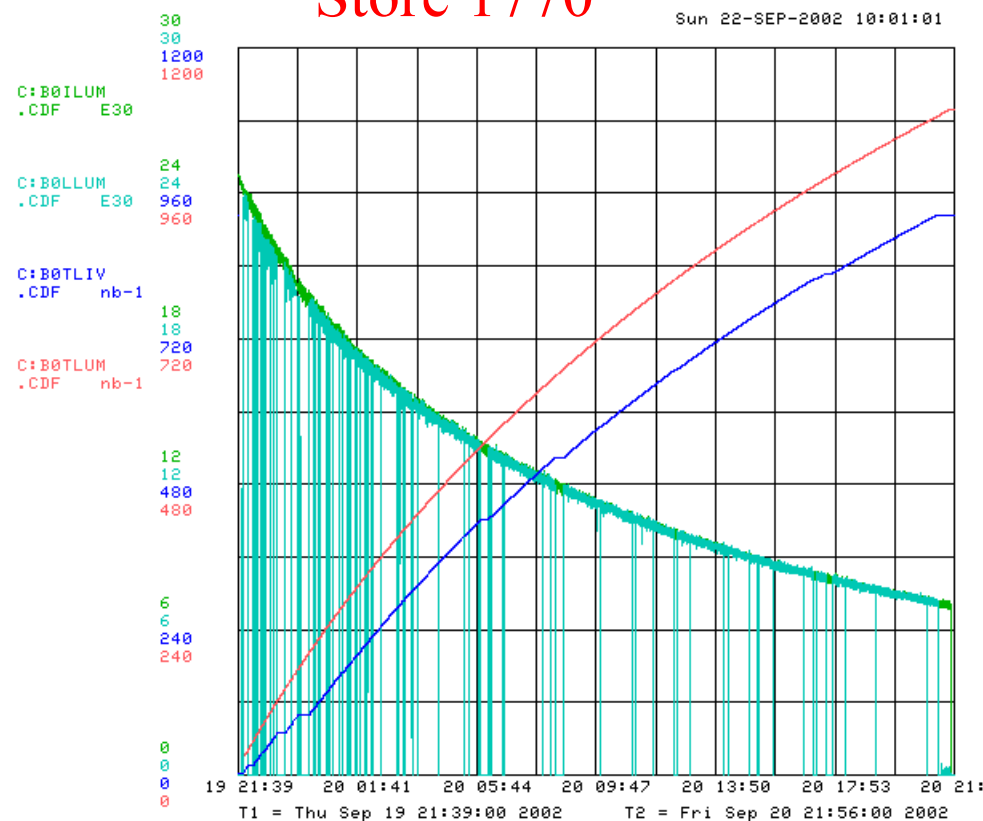
Store 1769

- Problem w/TEL delays Si integration.
- Cmx trips.
- Trigger Studies at end of store.
 - Forward muon trigger
 - Two track trigger
 - Diffractive trigger timing

Store 1770

- Problem w/TEL delays Si integration.
- Downtime due to cmp and cmx trips.
- Very smooth running
 - single DAQ run lasting ~ 12 hrs collected 0.405 pb^{-1} of data.
 - Owl and Day shift efficiencies > 90%
- Record luminosity to tape 0.924 pb^{-1}

Store 1770





Sat & Sun 9/21-22

Stores 1775 & 1779

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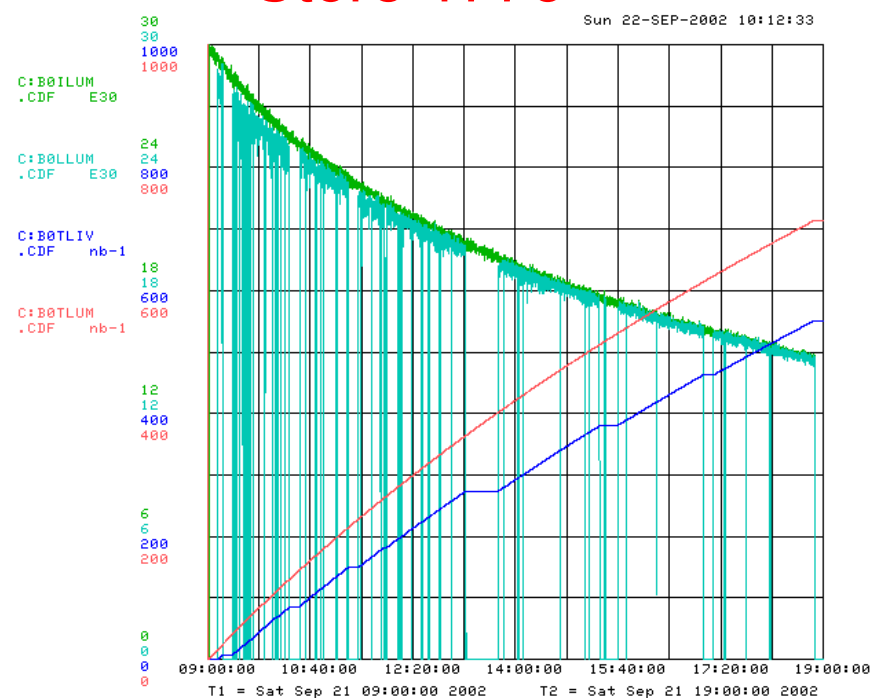
Store 1775

- Record initial luminosity: $29.8e30 \text{ cm}^{-2}\text{s}^{-1}$
- L1/L2/L3 = 9400/290/50 Hz, 6% DT.
- Downtime
 - Cmx trip as store begins.
 - DAQ (L3/Event Builder) problem.

Store 1779

- Initial luminosity: $29.4e30 \text{ cm}^{-2}\text{s}^{-1}$
- Downtime
 - Cmx trip as store begins.
 - DAQ problem L3/Event Builder - bug in software in recently updated GUI.
- Near end of store
 - Silicon Detector Calibrations.
 - Muon trigger test to study dimuon rates at L1 and L2.

Store 1775





Summary

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- **CDF is in great shape. We wrote to tape 3.8 pb^{-1} of high quality data in this record week of the 4.79 pb^{-1} delivered !**
 - **Beam losses have been low – this allows fast integration of the Silicon detector.**
 - **Used machine studies and end of store periods to perform very helpful DAQ work and trigger testing.**
 - **Working to better understand & solve downtime due to Muon Chamber trips and DAQ problems.**